

Appl. No.: 10/707,922  
Amdt. Dated: 8/26/2006  
Reply to Office action of: 06/19/2006

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

Claim 1 (currently amended) An electric distribution system for a vehicle ~~with two~~ having first and second networks at different higher and lower voltage levels and an architecture in which at least a said first of said networks is susceptible to being fed from ~~the said second network~~ voltage supply ~~network~~ through a ~~CC/CC~~ DC/DC converter, one of said two networks being connected to a generator and at least one of said two networks being fed by energy storage means such as a battery, characterized in that ~~it~~ said electric distribution system comprises several shunted ~~CC/CC~~ DC/DC converters, connecting said first and second networks at different voltage levels, all of them connected at a common point or output, each one of whose ~~CC/CC~~ DC/DC converters has a series or set of differentiated loads located in different areas of the vehicle assigned to it, belonging to at least ~~the said~~ lower voltage network, the power that each one of said converters can supply being lower than that of the maximum consumption of all said assigned loads ~~it has assigned~~, such that the power supply to each load set will be carried out at certain moments at the expense of ~~at least~~ more than one of said ~~different~~ CC/CC DC/DC converters or of a battery, and in that said converters, in order to supply different load groups located in different areas of the vehicle, are integrated in a master/slave architecture controlled from a control center ~~or master~~, including a microcontroller with the capacity to manage the power to be sent at all times to said loads by each one of said converters in a synchronized manner, the connection between ~~CC/CC~~ DC/DC converters, slaves, and control center including at least one high speed communication bus ~~such as a CAN or VAN bus~~, by means of which the needs of each load group ~~are~~ is reported.

Claim 2 (currently amended) A system according to claim 1, characterized in that each one of the ~~CC/CC~~ DC/DC converters has at least one tapping point for detecting the supply current required by the loads to be supplied and processed by each ~~CC/CC~~ DC/DC

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converter, whose information is sent to said control center integrating the master, through said communication bus.

Claim 3 (original) A system according to claim 2, characterized in that all said shunted converters are equal.

Claim 4 (currently amended) A system according to claim 1, characterized in that each one of said ~~two~~ first and second networks includes a common connection point or output of the different converters and is also fed from a battery and each one of the load groups whose supply is assigned to a corresponding converter includes a protection means based on fuses in at least some of the loads of each set.

Claim 5 (currently amended) A system according to claim 1, characterized in that each one of said ~~two~~ first and second networks includes a common connection point or output of the different converters and is also fed from a battery and each one of the load groups whose supply is assigned to a corresponding converter includes a protection means based on controlled switching devices ~~such as FET transistors~~ in at least some of the loads of each set.

Claim 6 (currently amended) A system according to claim 1, characterized in that each one of said ~~two~~ first and second networks includes a common connection point or output of the different converters and is also fed from a battery and each one of the load groups whose supply is assigned to a corresponding converter includes a protection means based on controlled fuses for some of the loads and based on controlled switching devices ~~such as FET transistors~~ for others of said loads of each set thereof.

Claim 7 (original) A system according to claim 1, characterized in that said first network is a lower voltage level network fed from a first battery and said second network is a higher voltage level network fed from a second battery.

Claim 8 (currently amended) A system according to claim 2, characterized in that at least two of said ~~several CC/CC~~ DC/DC voltage converters are two-way converters.

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Claim 9 (original) A system according to claim 2, characterized in that said higher voltage network supplies a series of loads, also sectorized and associated to each one of said converters.

Claim 10 (currently amended) A method for electric distribution for a motorized vehicle ~~with two~~ having first and second networks at different higher and lower voltage levels, wherein at least a first of said networks is fed from the second voltage supply network through a ~~CC/CC~~ DC/DC converter, one of said two networks being connected to a generator and at least one of the two networks is fed by an energy storage means such as a battery, characterized in that ~~it sends~~ the power to the loads flows through a plurality of ~~CC/CC~~ DC/DC converters in shunted arrangement between said two networks at different voltage levels with equalization of the outputs thereof by means of control of the output of each converter from a control center acting as master of a master/slave architecture, with ~~the different CC/CC~~ said DC/DC converters as slaves, integrating a microcontroller with the capacity to manage the power to be sent at all times to the loads on the part of each one of said converters in a synchronized manner, and the connection between ~~CC/CC~~ said DC/DC converters and said control center including at least one high speed communication bus, ~~such as a CAN bus~~.

Claim 11 (currently amended) A method according to claim 10, characterized in that it carries out a permanent detection of the intensity required by each load set and processed by the corresponding converter assigned to said group, ~~whose~~ said detection information is being sent through said bus to the system's control center ~~or master~~.

Claim 12 (new) A system according to Claim 1, wherein said at least one high speed communications bus is selected from the group comprising CAN and VAN buses.

Claim 13 (new) A system according to Claim 5, wherein said controlled switching devices are FET transistors.

Claim 14 (new) A system according to Claim 6, wherein said controlled switching devices are FET transistors.

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Claim 15 (new) A system according to Claim 10, wherein said at least one communications bus is selected from the group comprising CAN and VAN buses.